

Description of the Related Art

As is well known, developments in electronic computing devices have led to consolidation in a small space a number of functions that were afforded in the past only by desk computers. Many functions, e.g. diary, calculation, communication, scheduling functions, are now offered by a number of appliances (e.g., palm and hand-held computers, mobile phones, organizers) designed for operation while held in one's hand.

With palm-top devices, data and/or commands to execute operations sought by a user are entered by depressing keys or through a touch screen.

10 A nontrivial consideration in the design of palm-top devices is the interfacing with the user. For the available functions to be readily set to work by the user, it is necessary that the user be enabled to grasp the essentials for function activation without having to go through lengthy training sessions. This is because, unlike standard computers, these devices are often utilized to interact with a distracted user, as may be the case of a cellular phone being operated in a crowded railway station, or are required to respond promptly, as when voice or written notes are to be entered. Having to allow some minutes for the system/device to re-initialize, as is often necessary with desk-top computers, would be undesirable.

20 In this context, to be able to call an application or to enter a sequence of data by voice messages would make such palm-top devices quicker and more convenient to use.

A prior approach is disclosed in U.S. Patent No. 5,602,963, where a so-called personal organizer is described that can be commanded by voice.

25 Another voice-commanded device is disclosed in U.S. Patent No. 6,061,651, wherein a system is activated upon recognition of a vocal pulse above a given threshold.

30 To ease function activation and control, the industry of palm-top electronic devices had pursued expansion of the functions of a generic support system that affords a number of discrete functions within a limited area. However, a user's requirement is that any added functions should be readily identifiable, quick to install, and operable at will with little to no overlap of the support system.

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An approach that attempts to fill these demands is disclosed in U.S. Patent No. 5,133,076, which provides an expansion module for a palm-top computer.

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Another prior approach is U.S. Patent No. 5,432,938, which provides a method of automatically activating a functional expansion module by insertion into a computer unit.

Based upon the foregoing, there is a need for a hand-held or otherwise portable system which allows a user relatively quick access to and easy control of a variety of functions.

Summary of the Invention

10 Embodiments of the present invention are directed to provide a method of managing supplementary modules to a palm-top type of base device. In particular, embodiments of the present invention provide a method of implementing additional functions within a support system, specifically within a palm-top electronic device, with features appropriate to make predetermined applications, not originally provided
15 in the support system, quick to set up and use, for improved system applicability and user satisfaction.

The embodiments of the present invention divide these capabilities between a series of sub-features addressing the interfacing of a support system to an added module effectively supplementing the system with additional functional capabilities.
20 The sub-features include the capability to recognize existing applications in the basic reference device; check an additional function of the supplementary module for compatibility with the existing applications; find the class of commands to which the additional function is to be assigned; interact with the user to acquire necessary information to the additional function; set up the system for receiving and interpreting
25 the additional function; and hold the setup stored in memory, and retrieve the stored setup each time that the base device and supplementary module are turned on.

The features and advantages of the method and device according to embodiments of this invention will be apparent from the following detailed description of an embodiment thereof, given by way of non-limitative example with reference to
30 the accompanying drawings.

Brief Description of the Drawings